

EX-S43-1343

1343 nm Laser Module For Sensor Application 02-07-19 REV004

Description

The **EX-S43-1343** series of 1343nm InGaAsP MQW DFB laser modules is intended primarily for moisture detection application. All critical components, including optical isolator, TEC, thermistor, laser diode, and monitor photodiode are hermetically sealed in a 14 PIN butterfly package.

Key features

- ☐ Precise & stable spectrum performance
- ☐ 2 nm tunable by either temperature or current
- ☐ Internal TEC, thermistor & monitor PD
- ☐ Comply Bellcore GR-468 specifications
- ☐ RoHS compliancy

Applications

- ☐ Moisture detection

Absolute Maximum Rating:

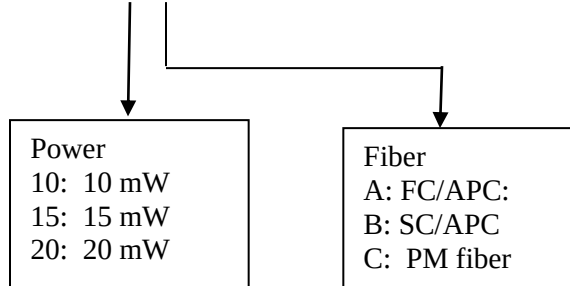
Parameter	Symbol	Condition	Min	Max	Unit
Operating Case Temperature	T_c	$I=I_{op}$	15	35	°C
Storage Temperature	T_{stg}	--	-40	85	°C
Laser Forward Current	CW	--	--	150	mA
Laser Reverse Bias	V_r	--	--	2	V
Photodiode Reverse Bias	V_{rpd}	--	--	10	V
RF Input Power	P_{in}	--	--	20	dBm
TEC Current	I_{TEC}	--	--	1.5	A
TEC Voltage	V_{TEC}	--	--	4.0	V
Lead Soldering Temperature		--	--	250	°C
Lead Soldering Time		--	--	10	s

Electro-Optical Characteristics (Tested under $T_c=25^\circ\text{C}$)

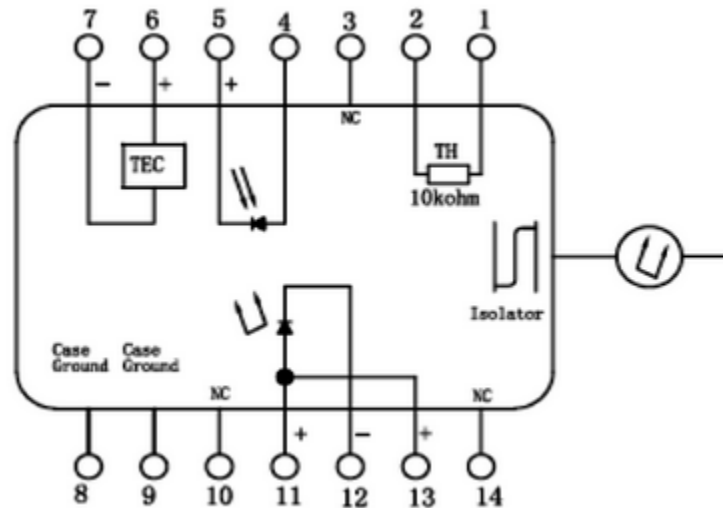
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Threshold Current	I_{th}	25°C	-	10	20	mA
Output Power	P_f	$IF=I_{op}$	10	-	-	mW
Laser Drive Current	I_{op}	CW	-	-	150	mA
Center Wavelength	λ_c	$I=I_{op}$	1342.3	1343.3	1344.3	nm
Side-Mode Suppression Ratio	SMSR	$I=I_{op}$	35	45	-	dB
Monitor Current Response	I_m/P_{LD}	-	5		-	$\mu\text{A/mW}$
Relative Intensity Noise	RIN	0.1-1GHz		-145		dB/Hz
Line Width	ν	$I=I_{op}$		1.5	2.0	MHz
Electrical Back Reflection	S_{11}	-			-10	dB
Modulation Bandwidth	S_{21}	$I=I_{op}$	1		-	GHz
Thermistor Resistance	R_{TH}		9.5	10	10.5	kOhm
Optical Isolation	ISO	-	30	40	-	dB
Polarization Extinction Ratio	PER	Optional	17	19	-	dB

Ordering Options:

EX-S43-1343-X-X

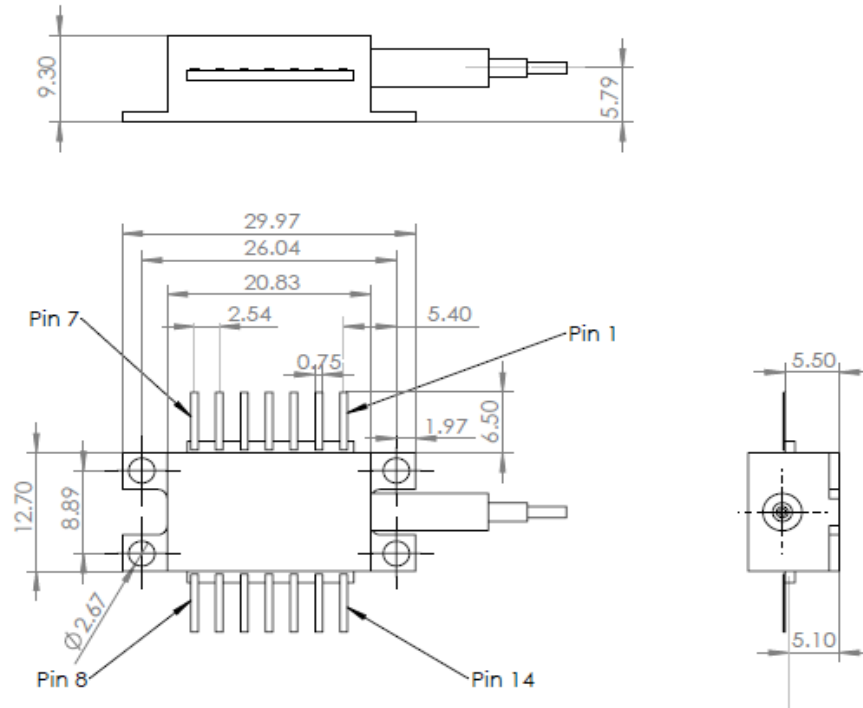


Electric Schematics



PIN	Connection
1	Thermistor
2	Thermistor
12	LD Cathode (-)
4	PD Anode (+)
5	PD Anode (-)
6	TE Cooler (+)
7	TE Cooler (-)
11,13	LD Anode (+)

Outline Drawing (unit: mm)



Typical Spectrum Curve

